The dispensary should be in relation, or at least in close touch, with the various hospitals prepared to receive cases of pulmonary tuberculosis, and would direct suitable patients, on the one hand, to sanatoria, and, on the other hand, to hospitals for incurable or dying cases.

If the proposal were more practically realized (which I made some half-dozen years ago in the *BRITISH MEDICAL JOURNAL*¹) that tuberculosis colonies should be established where poor patients might be enabled for long periods and under hygienic conditions to maintain themselves honourably by contributing to the common good of the residents, it would be a further function of the dispensary to select suitable patients for the colony, explaining to them its advantages in the shape both of physical and pecuniary benefit. Our experience for many years at the Victoria Hospital—where the conception has taken practical shape—abundantly proves that the idea of a tuberculous colony is a practicable one. At the present time the major portion of the non-medical staff of the hospital, including garden workers, engineer, carpenter, bath attendants, maid servants, and other workers, is constituted by tuberculous patients who have been restored to health at the hospital but whose chances of permanent cure would have been prejudiced by an immediate return to their previous employment.

The dispensary would also play an important part in the relief of the pecuniary distress which the disease so often entails. The families and dependents of affected persons must not only be safeguarded in respect of their health, and thus kept fit for work, but where necessary—as when the chief wage-earning member is affected—the dispensary should take cognizance of the household means and, if desirable, put the household in touch with one or other public or charitable fund. Reference to the inquiry schedule at present used at the Victoria Dispensary will show that it includes inquiry on such lines; nor has any inconvenience been found in obtaining the information.

Another valuable aspect of the dispensary's operations would be the determination of suitable lines of employment of a light and open-air kind for consumptive patients not requiring hospital treatment. This has been found in my experience one of the most valuable if sometimes a difficult part of the dispensary's operations. Many families have been saved from destitution by the timely suggestion of such work. Were tuberculosis colonies only more widely developed, a large part of the difficulty would be removed. To the care of the dispensary would naturally return patients who, after sanatorium treatment, remained still on doubtful ground in respect of permanence of cure. These would be similarly advised as to occupation, residence, continuance of treatment, and from time to time would report themselves for fresh examination.

School children already affected with the disease would be removed from the prejudicial influences of school life, and their education supervised on physical lines. This would constitute an important move in preventive medicine in the interest both of the infected child and of the other school children.

COST OF MAINTENANCE.

As to cost. I feel satisfied from experience that in a town of the size, say, of Edinburgh a sufficient organization of the kind might be effected for an annual outlay of about £1,000. This sum would admit of the maintenance of the dispensary and a sufficient staff of medical assistants, nurses, a clerk, and officer. The institution is necessarily capable of wide extension, with correspondingly greater outlay. I am confident that for the sum mentioned the essentials of the scheme could be carried out effectively. This outlay is trifling as compared with the cost of provision and maintenance of hospital accommodation for such patients, while in many instances the benefit to the individual would be as satisfactory. The advantage to the community would be incalculable, and should thoroughly justify the discharge of public money for the purpose.

COMPLETE ANTITUBERCULOSIS ORGANIZATION.

I have elsewhere² had occasion to indicate that a complete organization against pulmonary tuberculosis must include for our large cities:

1. A home for dying patients, chiefly in the interests of other persons.
2. A sanatorium or sanatoria for selected patients who, with a view to the cure of the disease, require a special régime not procurable in their own homes.
3. Colonies for the after-life and supervision of patients in

whom the disease has been sufficiently arrested to make selected open-air employment feasible and desirable.

4. A tuberculosis dispensary with the functions and relations I have attempted to outline.

In the conflict with tuberculous disease, which every progressive community is called on to wage, each of these factors will play a part. They should be in close organic connexion. They will all be found serviceable. Resting on experience gained in the gradual evolution of a plan of campaign during the past seventeen years, my belief is that an *officially recognized* tuberculosis dispensary is essential as the base for further operations. In this belief, I recommend to every considerable community the establishment of such an institution which will serve at once as the developmental centre and uniting point of all other agencies.

REFERENCES.

¹ On the Universal Applicability of the Open-air Treatment of Pulmonary Tuberculosis, *BRITISH MEDICAL JOURNAL*, July 23rd, 1898. ² Loc. cit.

PREGNANCY AFTER REMOVAL OF BOTH OVARIES FOR DERMOID TUMOUR.

By W. A. MEREDITH, F.R.C.S.ENG.,
Senior Surgeon, Samaritan Free Hospital.

DURING the course of the past few years a certain number of instances of pregnancy originating subsequently to the removal of both ovaries have been reported in medical literature. The conditions requiring operation have generally been described as chronic inflammatory disease of the uterine appendages, or occasionally as cystic disease of the ovaries; and in most of the cases the subsequent occurrence of pregnancy has been explained on the supposition that some portion of one or other ovary was left behind at the operation usually by accident, but in some instances intentionally with the object of avoiding interference with the menstrual function. The following case illustrates the possibility of pregnancy after double ovariectomy for advanced dermoid disease under circumstances admitting of no doubt as to the complete extirpation of both ovaries, and seems therefore worthy of being recorded.

History.

The patient, 35 years of age and recently married, was first seen on May 14th, 1901, in consultation with Dr. Godson, whom she had visited with a view to securing his attendance at her confinement. She was well nourished, and had always enjoyed good health, having been accustomed to lead an active out-of-door life up to the time of her marriage about two months before. She had not noticed any recent loss of flesh, and had been quite unaware of the existence of any abdominal enlargement until within a week or so of her visit to London. Menstruation had always been regular, the flow usually lasting for six days without suffering. The last period had terminated seven weeks before, the loss on this occasion having been scanty in amount and accompanied by a good deal of pain. For some eight weeks she had been troubled by nausea, and she believed herself to be pregnant.

Condition on Examination.

The abdomen was found to be moderately distended by a somewhat irregular and obscurely fluctuating tumour extending upwards on the right side to within two fingerbreadths of the costal arch, and to a somewhat higher level on the left of the middle line. This latter portion was apparently separated by a definite sulcus from the main mass of the tumour, and gave the impression of an independent growth. The base of the larger tumour, of more solid consistence than its abdominal portion, was found to be firmly wedged in the pelvic cavity, which it practically filled, displacing the cervix upwards and to the left. The enlarged body of the uterus was situated above and to the left of the pubes in front of the tumour, where its dimensions could be pretty accurately determined on bimanual examination.

Diagnosis.

Double ovarian cystoma, probably dermoids, complicated by early pregnancy of some eight weeks' duration.

Operation.

May 16th, 1901. On opening the abdomen, the omentum was found firmly adherent to the parietes from the umbilicus to the pubes, overlying a small collection of free fluid which had evidently prevented its adhesion to the subjacent tumours. The upper cavity of the main cyst on the right side having been emptied by aspiration, the lower portion of the growth—which, although non-adherent, was so firmly lodged in the pelvis as to render its extraction without previous puncture a troublesome business—was brought up and the whole was removed, after ligation of a pedicle measuring nearly 2 in. in length. The tumour on the left side—a smooth pyriform cyst of the size of a cocoon, with a pedicle fully 3 in. long—was removed unpunctured. The abdominal cavity was then freely flushed out with sterilized water and closed without drainage.

Both tumours were found on examination to be typical examples of dermoid growth, containing abundance of fatty material and hair. In both instances the elongated pedicle, including the Fallopian tube and ovarian ligament, was purposely tied and divided as far as possible from its uterine extremity, in the hope of avoiding subsequent miscarriage. On the third day after operation, however, uterine haemorrhage began, and after persisting for forty-eight hours culminated in the expulsion of a vesicular mole. The patient's convalescence was somewhat retarded by a well-marked attack of influenza, but was otherwise uneventful.

After-history.

In the following April (1902) I saw this lady in excellent health shortly after her return from the Riviera. She then informed me that in January and February she had noticed a coloured "show" lasting on each occasion for forty-eight hours, and that in March, after travelling through from Nice to London, she had seen a normal "period" of four days' duration. On pelvic examination I found the uterus perfectly natural as to size, position, and mobility; the sound passed readily $2\frac{1}{2}$ in., and caused no bleeding. No trace of any pelvic deposit or thickening could be detected.

During the next eleven months—from the beginning of April, 1902, until the end of February, 1903—menstruation continued regular with but two exceptions in the course of the summer and autumn of 1902. On each of these occasions the flow recurred somewhat profusely the following month, but did not exceed the usual five days' duration.

Pregnancy.

In 1903 the February period ended on March 1st and failed to reappear towards the end of that month, when she began to be troubled with nausea, which persisted for the next twelve weeks. No return of menstruation occurred in April, May, June, or July, and towards the end of this latter month she began to feel movements at intervals. In the end of August she slipped and fell on a hard wood floor, an accident immediately followed by severe pain and haemorrhage, which in the course of a few hours resulted in the birth of a well-developed fetus at about the fifth month. She made a perfectly smooth recovery from this mishap under the care of her usual medical attendant. Menstruation recurred two months later in October, 1903, and has since then continued regular.

In 1902 Mr. Alban Doran¹ read before the Obstetrical Society an interesting paper founded upon a case which had been under his own care. The patient in question, having had her left ovary removed for cystoma by Dr. Robert Barnes in 1880, developed a cystic tumour of her right ovary some thirteen years later, which was taken away in 1894 by Mr. Doran, who noted at the time the absence of any remaining trace of the left ovary. This second operation was followed by a recurrence of normal menstruation, and two years later by the birth of a child. The tumour removed by Mr. Doran is described as a true multilocular ovarian cyst, of which the base burrowed to some extent between the layers of the right broad ligament. The author concluded that some detached area of ovarian tissue must have escaped removal during the enucleation of the deeply-seated base of the growth, a view which offers a sufficient explanation of the subsequent history of the case. Some doubt existed in his mind as to the inclusion of the right Fallopian tube in the ligatures applied to the main vessels at the base of the cyst; but this question does not materially affect the possibility of conception, as proved by the well-known fact of pregnancy following the attempted sterilization by ligature of both tubes after Caesarean section.

In my own case, the re-establishment of menstruation, followed by pregnancy, is of course to be explained only by the theory that some portion of ovarian tissue capable of maturing follicles was left untouched by the operation, and, further, that the patency of one or other Fallopian tube was subsequently restored. The possibility of this latter occurrence has been fully established, and need not, therefore, be discussed. On the other hand, the question of the probable site of the oöphoritic tissue which escaped removal requires some brief consideration.

The supposition that some portion of one or other ovary was accidentally left behind at the operation, as may well happen during the removal of small adherent ovaries or of a sessile or burrowing cyst, may, I think, be entirely discarded in the present instance. Both tumours, as already stated, were connected with the uterus by long and exceptionally well-defined pedicles, which, although purposely secured at some distance from their uterine extremity, afforded ample space on the distal side of the ligatures for the avoidance during division of any interference with the base of the tumours.

The possible existence of a third ovary has been often conjectured, and the occurrence of such an abnormality has been actually recorded in German literature²; but in every such instance the presence of a third Fallopian tube would appear to have been also noted—a condition in accord with what

might be expected under such circumstances. Now, although one might well overlook the presence of an accessory ovary in the course of an operation, it is unlikely that a third Fallopian tube would escape notice, and I feel certain that no such abnormality existed in the case under consideration.

The only alternative supposition is that the ovarian tissue in question consisted of an outlying portion in connexion with the uterine extremity of one or other ovarian ligament. Such a condition—originally noted by Dr. Lockyer, and referred to by Mr. Doran in his Harveian Lectures³ as having been discovered in a specimen of uterine tumour removed, with both appendages attached, by abdominal hysterectomy, would fully account for the return of menstruation followed by pregnancy in the case of my patient; and this I believe to be the true explanation of it.*

A point of considerable importance to be here noted is the general advisability of a guarded prognosis as to the possibility of pregnancy after double ovariectomy. Until recently the consideration of such a possible sequence to the operation in question had been practically set aside; but this can no longer be the rule, as recorded cases, although few in number, are sufficient to establish the fact of its occasional occurrence under favourable circumstances.

So far, the majority of instances would appear to have followed upon the removal of chronically inflamed appendages where some small portion of one or other ovary has been accidentally left behind, presumably on the proximal side of the ligature; and it should be borne in mind that this same thing may occur during the removal by enucleation of any sessile or intraligamentous growth.

The so-called conservative treatment of diseased ovaries, originally advocated with the view of avoiding interference with the menstrual function and the consequent disadvantages of a premature menopause, has recently been practised on the Continent and elsewhere with the further object of avoiding subsequent sterility, and with occasional success.⁴ That the general adoption of such treatment is invariably judicious admits, I think, of considerable doubt, since it may well expose a patient to a recurrence of disease in the remaining portion of ovary without necessarily affording her a prospect of motherhood. At the same time, however, I am inclined to believe that in young women suffering from double ovarian cystic disease of a simple type, one is justified in purposely leaving a portion of normal ovarian tissue connected with the pedicle when possible to do so. On the other hand, in cases of rapidly growing adenomatous tumours, of colloid or papillomatous cysts, and of dermoid growths, no such attempt should be made, as the risk of recurrence in these conditions far outweighs any possible benefits to be derived from such treatment.

Finally, bearing in mind the occasional existence of follicular elements in connexion with the ovarian ligament, it is advisable, I think, in any case involving removal of both ovaries for cystoma of a non-malignant type to aim at transfixing the pedicles at a point sufficiently remote from the uterus to ensure non-interference with the root of the ligament, since by so doing one may afford the patient a possible chance of subsequent maternity, as was unwittingly done in the case here related.

REFERENCES.

¹ *Trans. Obstet. Society*, 1902. ² Thumin, Ueber zählige Eirstöcke, *Arch. f. Gyn.*, 1898. ³ *Lancet*, February 7th, 1903, p. 352. ⁴ *Amer. Journal Obstet.*, December, 1902. ⁵ Condamin, *Annales de Gynec. et d'Obstet.*, March, 1904.

NOTES OF EXPERIMENTS TO DETERMINE THE RELATIVE EFFICIENCY OF SOME SURGICAL DRESSING MATERIALS.

BY

A. N. M'GREGOR, M.D., and R. RAMSEY, M.B., Ch.B.,
Assistant Surgeon. Late Senior House-Surgeon,
Glasgow Royal Infirmary.

THE experiments were undertaken for the purpose of determining the relative absorptive power of the commoner surgical dressing materials. The need for some such experiments was suggested by the unsuitability, in practical clinical work, of the materials for drainage purposes in general use. The earlier experiments showed that a wide

* A similar abnormally situated mass of ovarian tissue, in close relation to the base of the ovarian ligament, has been described by Dr. Baldwin,⁴ who discovered it during a second operation undertaken for the relief of persistent menorrhagia in a patient, both of whose ovaries he had previously removed.